



First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

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EDITORIAL COMMENT.



The British Round-the-World Flight

WITH very little ceremonial the three British aviators left Calshot on Tuesday, March 25, a few minutes after noon, on the first stage of their flight around the world. The manner of their send-off was in a measure symbolical of the whole venture: no shouting, no fuss. Beyond the few thousand photographers, just a quiet gathering of a few directly interested in or concerned with the flight, and, the last preparations completed, the Vickers "Vulture" slid down the slipway, headed towards Southampton while taking off, circled back over Calshot, when the crew waved a final "Au revoir," and the machine quickly disappeared in the distance. King George had sent a message wishing the aviators God-speed, and Lord Thomson, on behalf of the Air Ministry, wished the venture luck, while Air-Marshal Sir Hugh Trenchard added a message with best wishes from the R.A.F., and—the British round-the-world flight had opened.

Behind the scenes, however, and only indicated by incidental glimpses, there lies a vast amount of insistent preparation. Into the machine Mr. Rex Pierson, backed by the Vickers' staff and workmen, has put all his best, and the "Vulture," although not incorporating a single experimental feature, has had introduced in its design and construction all the latest improvements that have been really thoroughly tried out. The Napier "Lion" fitted in the machine, as well as those spare engines sent to Tokio and Toronto, has had all the care bestowed upon it of which the Acton works are capable (and those who have seen the "Lions" and "Cubs" built will know what that means). Shell-Mex have arranged for the supply and distribution of petrol and oil at all the ports of call *en route*, and finally, in the equipment of the machine, every instrument and every accessory has been made by specialists in their own particular line of work. In a flight like this the question of good instruments is of more than ordinary importance, but the fact that, with the exception of the Reid turn indicator, all the instruments were made by

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

- March 31 R.Ae.C. Annual General Meeting (6 p.m.)
- May 31–June 9 Third Czecho-Slovak International Aeronautical Exhibition, Prague
- April 1 .. Entries close for Schneider Cup and Gordon Bennett Balloon Races.
- April 3 .. "The British Aviation Mission to the Imperial Japanese Navy," by Colonel the Master of Sempill, before R.Ae.S.
- April 11 .. "Radial Engines for Aircraft," by Mr. S. M. Viale, before Inst. Ae. E.
- April 23 .. Visit to National Physical Laboratory, Teddington. Inst. Ae. E.
- April 25 .. Aero Golfing Society Team Match, Oxhey Golf Club.
- June 15 .. Gordon Bennett Balloon Race, Belgium.
- June 21 .. F.A.I. Conference Opens, Paris.
- July 24–Aug. 10 Tour de France for Light 'Planes.
- Aug. 4 .. Aerial Derby at Lympne
- Sept. 8–13 Light 'Plane Competitions at Lympne

Smith and Sons is a guarantee that there shall be no avoidable trouble in this direction.

As for the men themselves, they are all three young, they are extraordinarily keen, and last, but by no means least, they have, over a long period, planned the expedition with most thoroughgoing care. The chief of the expedition, Squadron-Leader MacLaren, has a splendid record in the R.A.F., and among his past achievements it is only necessary to mention his flight in a Handley Page from London to Aden in 1919, the first flight to be made over that part of the world. Flying-Officer Plenderleith, who is acting as pilot on the world-flight, accompanied Squadron-Leader MacLaren on the flight to Aden, so that the chief and his second-in-command know one another intimately and are accustomed to work together. Flight-Sergeant Andrews has spent several weeks at the Napier works, getting thoroughly well acquainted with the "Lion," and another few weeks at the Vickers Weybridge works familiarising himself with every detail of the "Vulture." Maps, charts, and other information relating to the route have been collected, so that the expedition sets out extremely well prepared. If the attempt fails, it will be for no foreseeable omission or oversight in the organisation. The task is a terrific one, and the strain on crew as well as on machine and engine will be severe. There is, however, every reason to hope and to expect that the three gallant aviators will succeed in their undertaking. Whether they will circle the globe before the Americans do so remains to be seen. That they will circle it we have little doubt. And once more we wish them success. The thoughts of millions will follow them on their journey, and in *FLIGHT* we hope to indicate, on a sketch-map, the progress made from week to week. The map is diagrammatic, but it is thought that it should show at a glance the relative positions of the British and American expeditions.

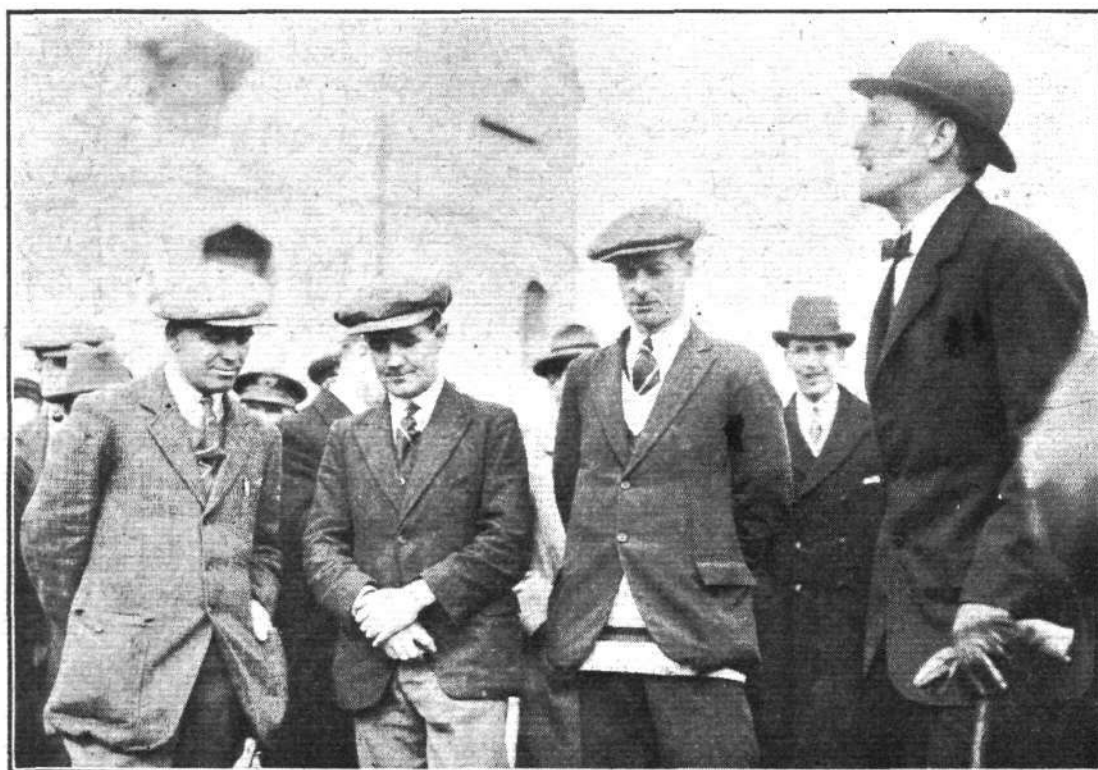
**What
"Flight"
Saved the
Nation!**

An interesting answer upon the subject of Government aircraft insurance was given in Parliament on March 24, when Mr. Harmsworth asked the Chancellor of the Exchequer what was the amount of the balance left after discharging claims under His Majesty's Government air-raid insurance scheme during the late War; and how that balance has since been disposed of?

Mr. Alexander, who replied on behalf of the Government, said the excess of premiums received by the Government under the aircraft insurance scheme, after deducting commission and expenses, allowed to approved insurance companies who acted as agents in connection with the operation of the scheme, and paying claims and assessors' fees connected therewith, was £10,898,187 8s. 2d. This surplus was paid into the National Exchequer.

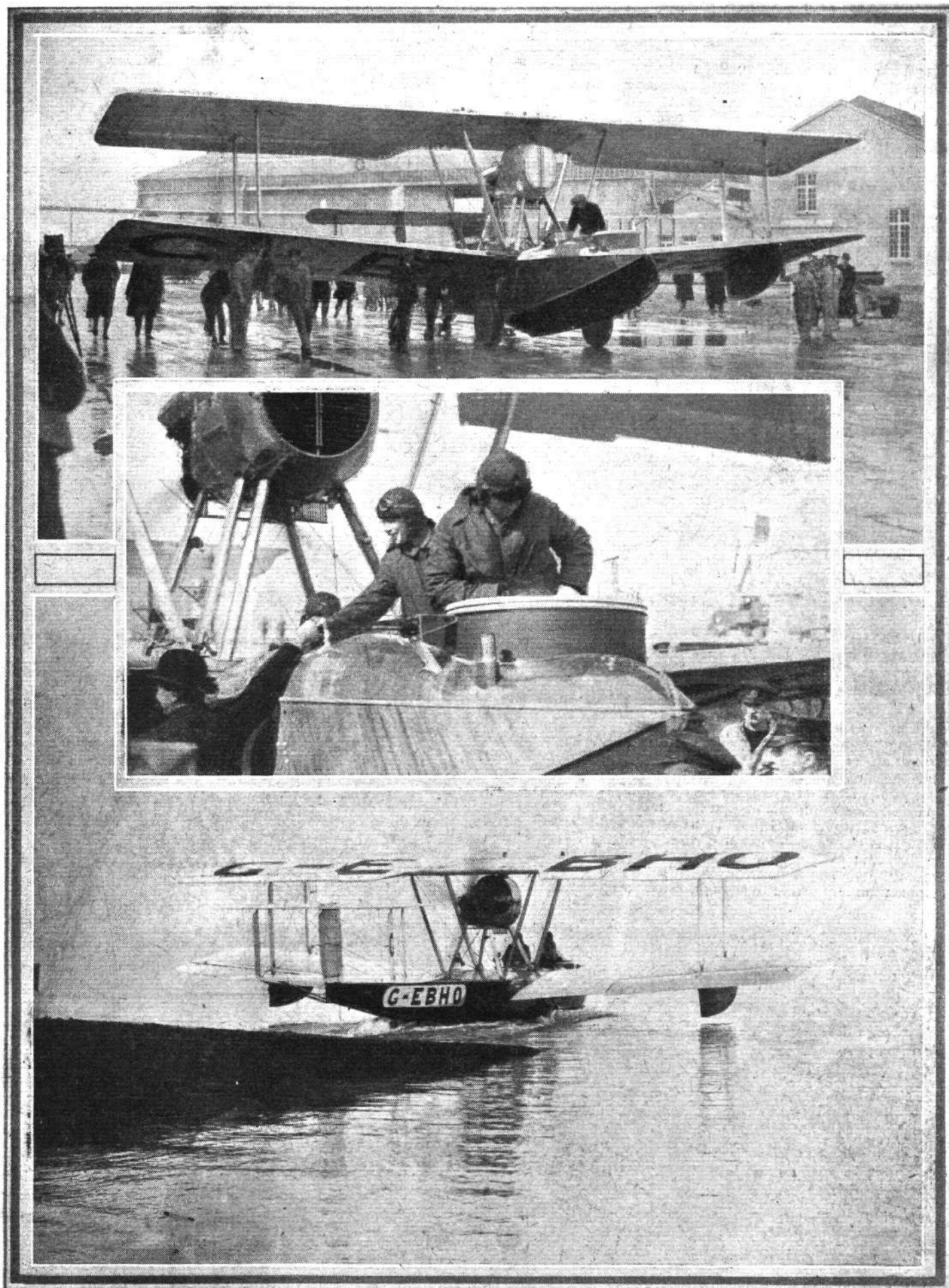
And that's that; but it might have been several millions more had the then Government acted immediately upon the proposal originally put forward by and in *FLIGHT* in the early days of October, 1914, and hammered in week after week in our journal. There will be found the exact scheme as ultimately carried out by the authorities, even down to the placing the whole premium collection upon a commission basis, into the hands of insurance companies, thereby utilising the vast organisation resources of those great institutions without one penny cost or risk to the country. Yet it was not until July, 1915, that *somebody* woke up and set our scheme going. In the meantime, millions in premiums had been pocketed by those astute people, members of Lloyd's.

And we are still left wondering *who* got credit for *FLIGHT* insurance scheme, and who got the few dozen or more baronetcies and knighthoods which the equivalent amount of cash paid into Party coffers would have commanded! We wonder!



THE WORLD-FLIGHT: The Air Minister, Lord Thomson, wishing the crew good luck in their splendid effort. Right to left—Lord Thomson, Squadron-Leader MacLaren, Flying Officer Plenderleith, and Flight Sergeant Andrews.

THE WORLD FLIGHT



THE FLIGHT AROUND THE WORLD: The start from Calshot on March 25. The upper photograph shows the Vickers "Vulture" being wheeled down to the slipway. In the lower picture the machine is seen taking the water, while inset shows Squadron-Leader MacLaren giving a last handshake.

THE VICKERS "VULTURE" AMPHIBIAN

Napier "Lion" Engine

THE machine on which Squadron Leader MacLaren, Flying Officer Plenderleith, and Flight-Sergeant Andrews are to attempt the flight around the world is a Vickers "Vulture" amphibian flying boat with a Napier-Lion engine. Generally speaking the "Vulture" is similar to the "Vikings," and resembles the machine on which the late Sir Ross Smith was to have made the attempt in 1922. In the interim, however, certain changes in design have been effected, but these are chiefly in the nature of detailed improvements, and as a type the "Vulture" may be said to have descended from the

to be exact, which gives room for spars of very considerable depth. Furthermore, the chord has been increased from 7 ft. 1 in. to 9 ft. 3 ins., although the span has only been increased by 3 ft. (from 46 ft. to 49 ft.). The aspect ratio of the "Vulture" is therefore smaller than that of the "Viking IV," the figures being 5.29 and 6.49 respectively. The wing area has been increased by 243 sq. ft., from 585 sq. ft. to 828 sq. ft. As a matter of fact, one variation of the "Viking IV," built for Holland, had a slightly larger area than the standard type—i.e., 636 sq. ft., for a span of 50 ft.

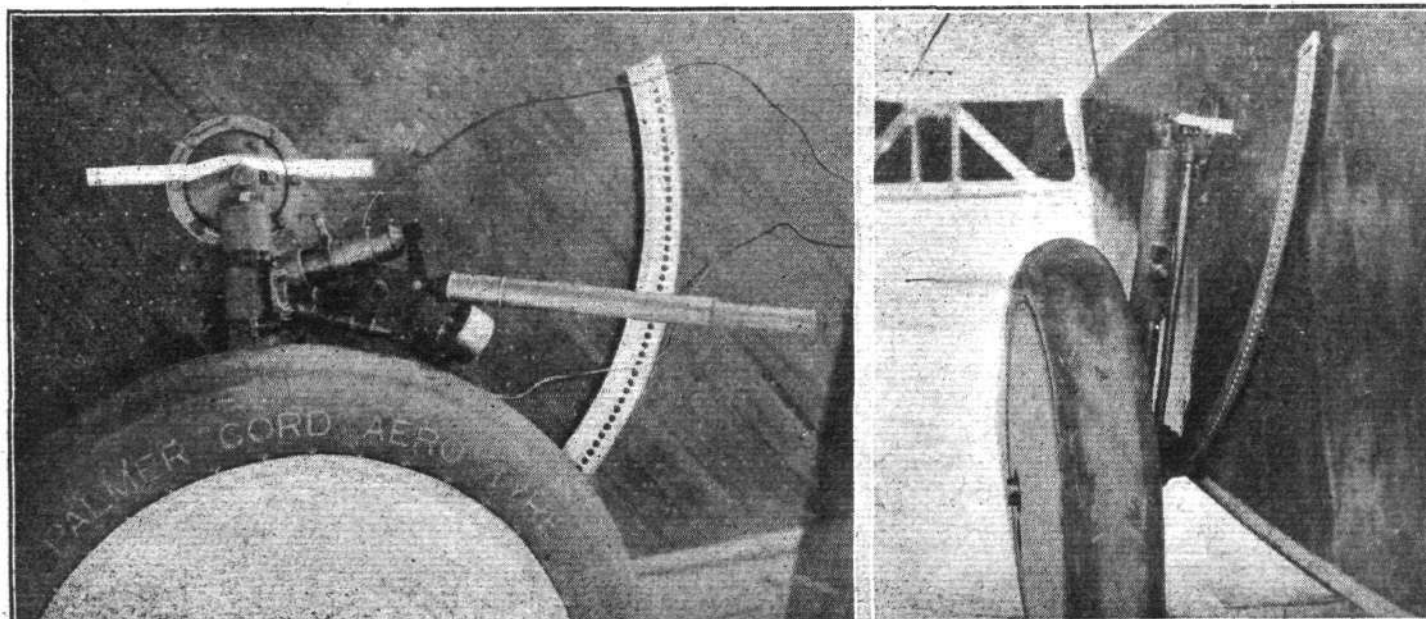


PREPARING FOR THE FLIGHT: Finishing touches being put to the Vickers "Vulture" G-EBHO on which the flight around the world is being attempted.

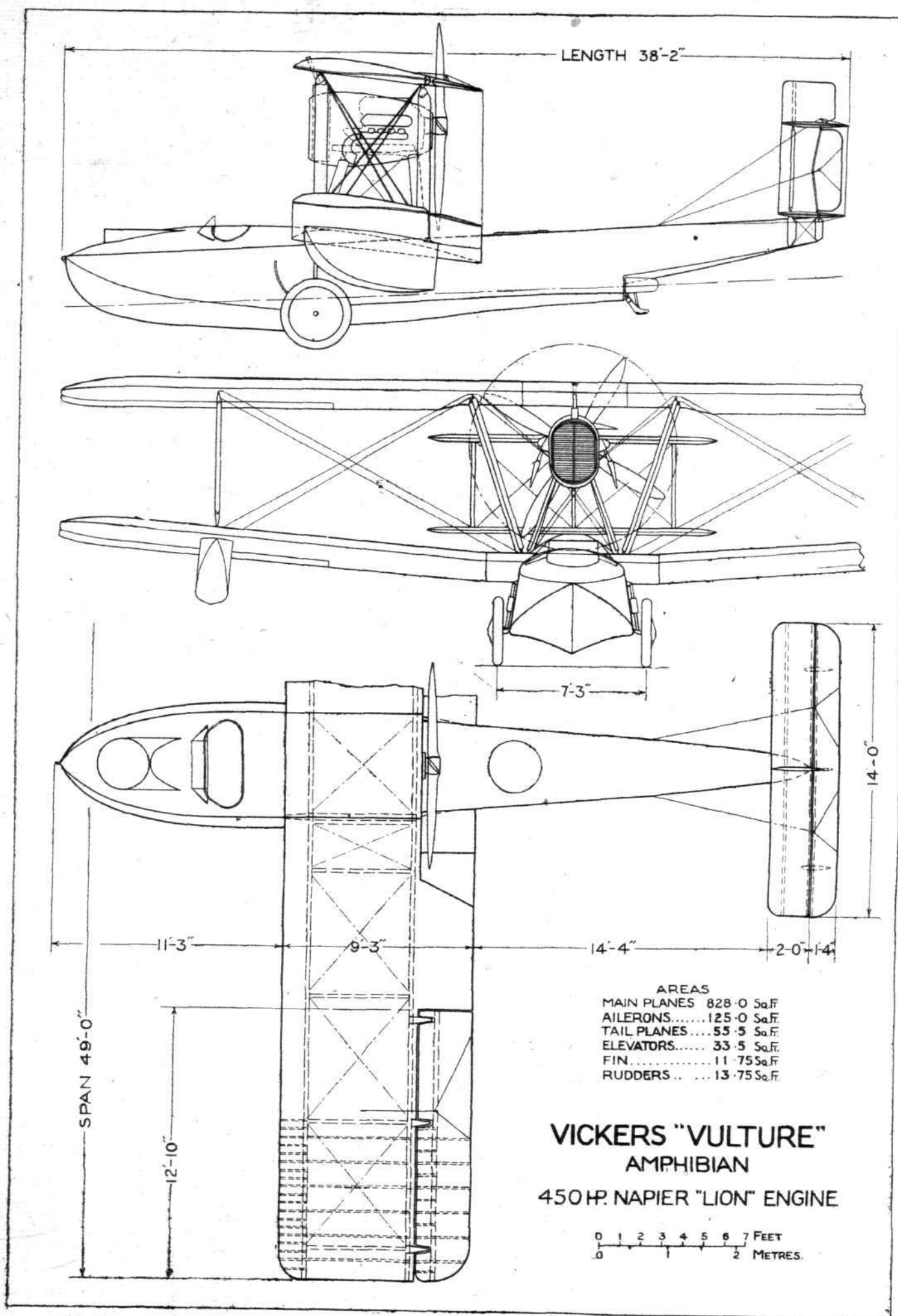
"Viking" family. The type should be well known to readers of *FLIGHT*, as several "Vikings" have been described from time to time. Thus the "Viking IV" was described and illustrated in our issue of October 6, 1921, while the latest type of Vickers amphibian, the "Vanellus," was shown in a set of photographs published in our issue of February 14, 1924. As regards outward appearance, the "Vulture" differs from the "Viking IV" chiefly in being a single-bay instead of a two-bay biplane. This reduction in the number of struts has been made possible by using a thick wing section, No. 64,

The Hull

The hull of the "Vulture" is very similar in its general lines to that of the "Vikings." The bottom is planked with a double skin of mahogany, the strakes of the two skins running at right angles to one another, and each forming an angle of approximately 45 degrees with the line of flight. The sides and deck are planked with "S.C.T." This is in the form of panels, something like three-ply, but with only two skins whose strakes run at right angles to one another. The skins are cemented together under pressure, and at



THE VICKERS "VULTURE": Two views of the oleo undercarriage. On the left is shown also the two-stage pump used for reaching a pressure of about 800 lbs. per sq. in.



THE VICKERS "VULTURE" AMPHIBIAN FLYING BOAT, NAPIER "LION" ENGINE: General Arrangement Drawings, to Scale.

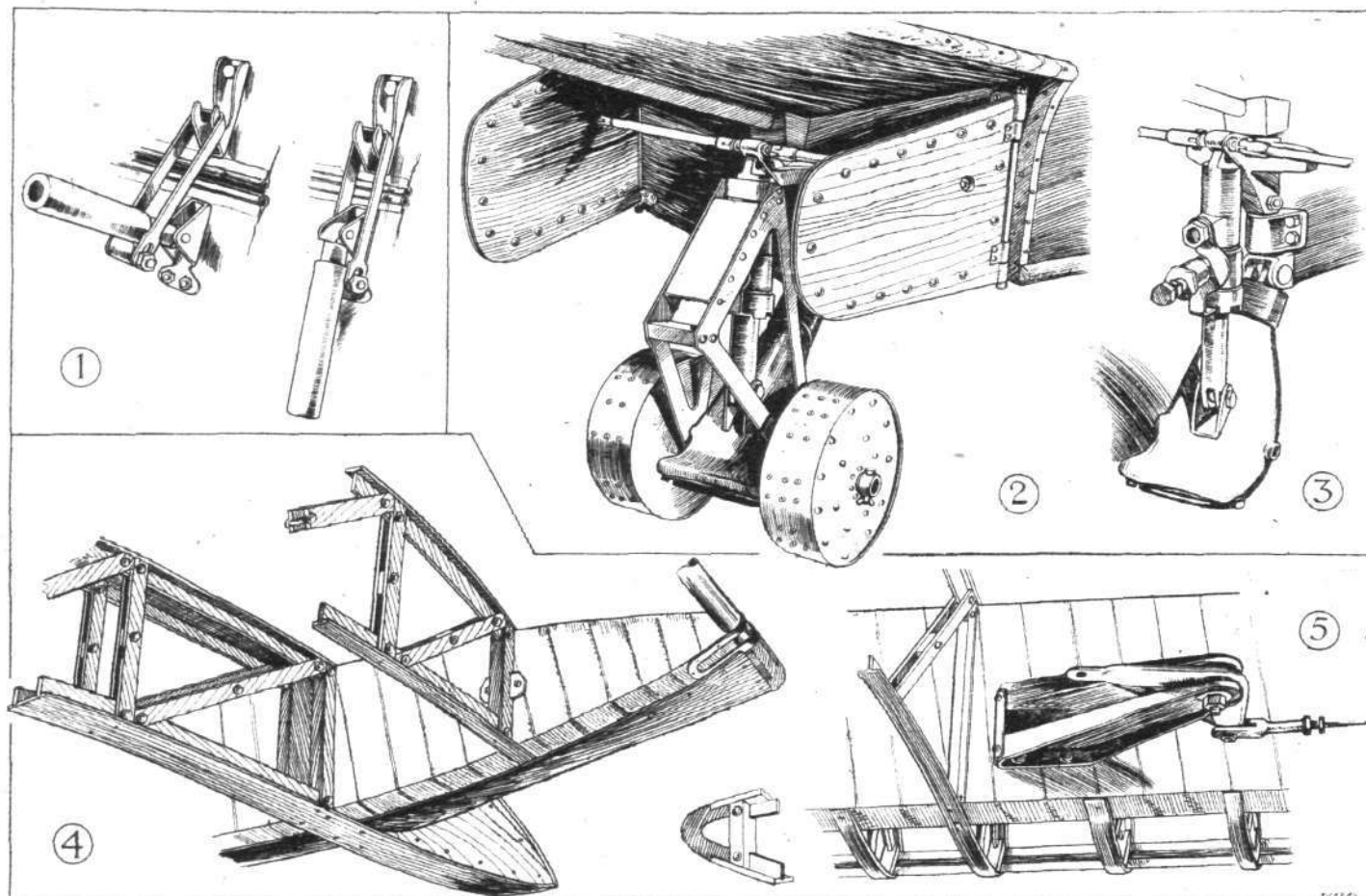
considerable temperature. For the planing bottom this material could not well be used, as the steps have a considerable curvature, and sheet material cannot be bent to a double curvature. Thus the planing bottom differs from the sides in that, although it looks the same, its planks are applied individually, whereas the planking of the sides is applied in the sheet. The main frames are of mahogany, while the timbers and longitudinal stringers are of rock elm, through-fastened to the planking.

The main step is open—i.e., the water is allowed free access to (and exit from) the space between the step planking and the bottom of the main hull. The rear step, however, is closed, and carries the tail skid and water rudders.

The Cockpits

Pilot and navigator are seated side by side in the main cockpit, the pilot on the starboard side. In front of him is a very complete instrument-board, with air speed indicator, altimeter, oil and petrol gauges, clock, compass, turn indi-

the wing structure. Great care has been taken to make the engine as accessible as possible, and to this end the cowling has been made in several sections, held in place by quick-release devices of the type shown in one of our sketches. By removing the appropriate panel of the cowling any part of the engine can be reached with a minimum of delay, a matter of considerable importance on an expedition like that planned. A nose radiator with shutters forms the front portion of the engine nacelle, and slung underneath is a small oil radiator of novel design, developed by Mr. Rex Pierson, chief designer of Vickers Aviation Works. This oil cooler consists of circular section copper top and bottom tubes connected by streamline section vertical tubes. A spring-loaded valve in the top tube allows the oil to be pumped through a bye-pass when the pressure exceeds a certain amount. Thus when starting up in the morning, with the oil quite cold and thick, it would be impossible to force it through the streamline tubes; the valve then opens and allows the oil to pass through the horizontal tubes until the oil has become sufficiently



THE VICKERS "VULTURE": Some Constructional Details. 1, The neat quick-release fastener used on the engine cowling. 2, The water rudders, tail skid and tail trolley. In 3 the tail skid is shown with the trolley removed. 4 shows the spar and rib construction, with the rib extension carrying the aileron hinge. In 5 is seen one of the brackets and crank used inside the wing to eliminate the use of cables passing over pulleys.

cator, etc. We understand that with the exception of the Reid turn indicator all the instruments were supplied by Smith and Sons. The seat on the port side is placed in front of a small door giving access to the front compartment, which will be used mainly for photographic purposes. A cine-camera is carried, and when in use is mounted on a standard gun-ring, with provision for swinging it rapidly in any direction, ultimate fine adjustment, and locking device. In the bows of this compartment are lockers containing the photographic materials, plates, films, cameras, etc., and as the view from this cockpit is particularly unobstructed the expedition should secure some very fine pictures, "still" and "moving." A fairly large cockpit aft of the wings will be used for housing the spares, of which a considerable quantity are carried. Among these may be mentioned a four-bladed propeller, which, to economise space, is made in the form of two separate two-bladers with thin bosses, which can be secured on the propeller shaft at right angles to one another.

The Engine Mounting

The Napier "Lion" engine is mounted on steel tube struts rising from the hull, the engine supports being independent of

thin to pass through the vertical streamline tubes. That this type of oil cooler is effective will be realised when it is recorded that a temperature drop of no less than 16 degrees has been obtained by fitting the cooler.

While on the subject of the engine installation, it should be mentioned that the two large main tanks are carried in the hull, whence petrol is forced to a gravity tank in the top centre-section by two windmill-driven pumps. A hand pump is fitted in the pilot's cockpit. For the long overseas flights an extra tank will be fitted in the cockpit. Extra oil and water tanks are fitted in the bilge, to be pumped into the service tanks as required. The total petrol capacity of the tanks is: 321 gallons in the two main tanks and 80 gallons in the extra tank, giving a total of 401 gallons. Cruising at a little over 80 miles per hour, the machine probably does something like 4 miles per gallon, so that the range, in still air, should be in the neighbourhood of 1,600 miles. As a matter of fact, as the fuel is used up and the machine gets lighter, it will in all probability do more, and under favourable conditions should be capable of the non-stop flight from St. John's to Ireland. If conditions are not favourable for the direct flight the route *via* the Azores will be followed.

The Retractable Undercarriage

One of the special features of the "Vikings" has always been the retractable undercarriage, whose wheels move forward and up, following quadrants on the sides of the hull, until clear of the water. In the "Vulture" the same principle has been followed, but an oleo undercarriage has been substituted for the rubber shock absorbing gear of the "Vikings." By working at high pressure (about 800 lbs./sq. in.) it has been possible to bring the weight down to the same as that of the rubber chassis. In fact, the oleo undercarriage is actually a little lighter, by something like 3 lbs. per side. The principle of the Vickers oleo gear, which is used on a number of Vickers types, is that a plunger or piston of slightly conical shape works inside a tapered bore cylinder. When the piston, and the oil above it, is at the bottom of its stroke it exactly fits the cylinder. As it moves up it leaves, owing to the taper, a small annular space around the piston, through which some of the oil passes to the space below the piston. The taper is so proportioned as to give a constant pressure.

Working at such high pressures, it was found that the ordinary type of pump was scarcely equal to the job, and consequently Mr. Pierson evolved a special two-stage pump, which raises the pressure to the required figure with apparently little effort. This pump is shown in place on the starboard undercarriage in one of our photographs. It is held on by clips, and is quickly transferred from one side to the other. The oleo undercarriage makes a very "clean" gear, as will be seen from one of our photographs, and as the weight is the same it should be more suitable for this particular flight than the rubber gear with its need for renewal at fairly frequent intervals.

The tail skid of the "Vulture" is slightly different from that of the "Vikings," and does not form a water rudder. For wheeling the machine about on the ground or in a shed a light two-wheeled tail trolley of Vickers Duralumin is fitted. This trolley is shown in place on the skid in one of our sketches. The framework aft of the skid serves as a fulcrum for a jack. When the tail has been raised sufficiently to allow the wheel axle to be pushed through the skid, the two wheels are easily mounted and secured by wing-nuts. Thus the crew should be able to wheel the machine about without outside assistance. This would scarcely be possible without the tail trolley, as there is a very considerable weight on the tail skid when the machine is standing on the ground. Instead of making the tail skid perform the function of a water rudder, as on the "Vikings," two separate water rudders are fitted at the rear step. These rudders are not parallel with one another, but are so placed as to be in line with the sides of the hull just forward of the step when the rudder is central. This arrangement has presumably been chosen in order to reduce the rudder drag. It goes without

saying that both the tail skid and the water rudders are connected up to the air rudders so as to enable the machine to be steered on the ground or water, as the case may be.

The Wings

As already mentioned, the wings of the "Vulture" are in the form of a single-bay biplane. The centre-section struts, it will be seen, are raked outwards considerably so as to reduce the free length of spar in the top plane. The main wing spars are of box section, with spruce flanges and three-ply sides, the whole wound with doped fabric. The ribs are of lattice type, with double lattice bars of spruce, riveted to the top and bottom members with Duralumin rivets. The construction is simple, light and very strong. The ailerons are carried on brackets in the form of continuations aft of the rear spar of certain wing ribs of specially strong construction. The loads which ailerons of this type may throw on the brackets are very large, but by having the hinge ribs running through, sufficient strength is provided. The strength of this part of the structure is probably very greatly increased by the semi-circular section three-ply which covers the face of the rear spar, as the three-ply fits into the webs of the hinge-brackets. The details are shown in a sketch. This three-ply probably relieves the rib flanges of most of the shear. The aileron cables are carried inside the wings, and by using a bracket and crank, as shown in one of our sketches, it has been possible to use tie-rods throughout and to do away with all cables passing over pulleys.

The main dimensions of the Vickers "Vulture" are shown on the general arrangement drawings. The airworthiness weight of the machine is 6,000 lbs., giving a wing loading of 7.25 lbs./sq. ft., which is fairly light for a flying boat, especially in view of the fact that 64 is a fairly high-lift section. The landing speed should not be more than about 45 m.p.h. The top speed with full load and at sea level is about 104 m.p.h., and the climb to 5,000 ft. occupies nine minutes. The cruising speed, as already mentioned, is about 82 m.p.h.

The fact that the Vickers "Vulture" is an amphibian should render it particularly suitable for the flight, as there must necessarily be many occasions when the ability to alight on or get off from land or water equally well, means the difference between success and failure. As all Vickers machines, the "Vulture" is beautifully finished, and no effort has been spared to make the construction as sound as is humanly possible. The fact that the flight is a private venture, in which the machine is supplied by Vickers, Ltd., the engines (two of which have been sent to Toronto and Tokio respectively) by D. Napier and Son, and the petrol supplies by Shell, as against the American Army official attempt, makes the effort all the more creditable, and we are sure all our readers will join us in wishing Squadron-Leader MacLaren, Lieut. Plenderleith and Sergeant Andrews every possible success.

THE AIR RACE ROUND THE WORLD

Two big attempts at a flight round the world are now claiming the attention of all interested in aviation, and of mere "earth worms" in general—one British and privately organised, the other American and a Government affair. The American expedition, which started on March 17, has thus received a week's start over the British attempt.

The British expedition consists of three members: Squadron Leader A. S. C. MacLaren, who is acting as navigator; Flying-Officer J. Plenderleith, the pilot; and Sergeant Andrews, who will attend to the "Lion" during the flight—in other words, the engineer.

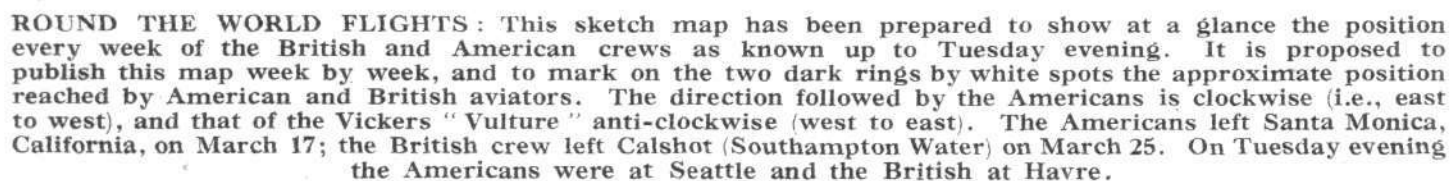
The machine used on this flight is a Vickers "Vulture" amphibian flying boat, fitted with a 450 h.p. Napier "Lion" engine. As this machine is fully described elsewhere in this issue it will be unnecessary for us to make any further reference to it here.

The American team is made up of four machines, each manned by a pilot and a mechanic. The names of the pilots are, Major F. L. Martin, and Lieuts. L. H. Smith, L. Wade, and E. H. Nelson. Details of the American expedition and of the machines employed appeared in *FLIGHT* for December 13, 1923, so we need only refer briefly to the main features of the attempt. In the first place the whole flight is organised by the U.S. Army Air Service, to which both men and machines belong. Thorough preparations have been made all along the route, and the flight has been very carefully planned. They are employing Douglas biplanes, each fitted with a 400 h.p. Liberty engine. These machines will be equipped with either wheel landing gear or floats, according to the special requirements at various points on the route.

In comparison, the British attempt will be, we think, a much more sporting effort, calling for no small amount of risk, for while the programme has been well planned and organised, everything has had to be done more or less privately and without any highly organised "official" backing—financial and otherwise. However, considerable assistance has been given by Messrs. Vickers, Ltd., who are supplying everything necessary as regards the machine, and Messrs. D. Napier and Son, who are likewise looking after the requirements in connection with the engine. The Shell-Mex Co. have established petrol and oil "dumps" at all places of call along the route—perhaps the most important item of the whole expedition.

While the Americans are flying in a westward direction, Squadron-Leader MacLaren has chosen the eastward route. Both routes, however, follow practically the same course. We will first go over the British route, and then indicate where the American route, which was given in our issue for December 13 last, deviates from the former.

Starting from Calshot, Southampton, the first stopping place is Lyons, thence to Rome, Brindisi, Athens, and Cairo. From Cairo the route follows the existing air-mail line to Baghdad, and then on to Karachi, *via* Bushire and Charbar. This completes the first of the five sections into which the route has been divided. The second section extends from Karachi to Tokio, *via* Nasirabad, Allahabad, Calcutta, Rangoon, Bangkok, across French Indo-China, Hong-Kong, Foochow, Shanghai, and along the south coast of Japan to Tokio. The third stage is a most difficult one, *viz.*: from Tokio to Vancouver. This stretch, alternately over land and water,



We have prepared a special map (see above) showing diagrammatically the routes each of the respective expeditions are intending to take, and we propose publishing this map week by week, indicating each time the relative positions of the rival flights. Our readers will thus be able to follow, graphically, the progress of the "race" from start to finish.

SQUADRON-LEADER MACLAREN and his two companions, Flying Officer Plenderleith and Sergeant Andrews, started off on their big trip from Calshot Aerodrome, Southampton, on

The following message was also received from Air Chief-Marshall Sir Hugh Trenchard :—" On behalf of all officers and airmen of the Royal Air Force I wish you and your comrades every success in your flight round the world. I feel certain that in so far as determination and careful organisation are the principal factors that make for success, you will be sure of achieving it ; personally, I also wish you all the best of luck, and shall follow your progress with the greatest interest."

Sir Keith Smith also sent a message, wishing them "all good luck—safe landing, successful return."

Weather conditions were, on the whole, good—it being fine, but with slight mist. Before they actually started a trial flight was made, Mrs. MacLaren being one of the passengers, and thus accomplished and certain adjustments made, preparations were made for the departure. Lord Thomson made a brief speech, in which he said that he was certain that he was expressing the opinion of all present when he said how proud they all were of Squad-Ldr. MacLaren, F.O. Plenderleith and Sergt. Andrews, and of their high courage. "Our hearts and our hopes," he continued, "will go with them through the innumerable vicissitudes of this world-flight. We know that only superhuman obstacles will prevent them from succeeding in their efforts. We trust that their energy and skill will triumph in the end. We bid them God-speed, and can promise them a splendid welcome on their safe return."

Then, Lord Thomson having shaken each man by the hand, and after many final handshakes and good wishes from others present, just after mid-day the Vickers "Vulture" taxied down the slipway into the water, and eventually took off after a comparatively short run considering the heavy load carried and the by no means ideal conditions of the water. Once in the air the "Vulture" circled round above the spectators and, MacLaren and Andrews waving farewells over the side, headed for the Isle of Wight, accompanied by an escort of sundry flying boats and land planes.

Later in the afternoon came the news that, striking fog on the other side of the Channel, they were forced to descend near Havre, at which place they eventually "made fast" at about 3 p.m.

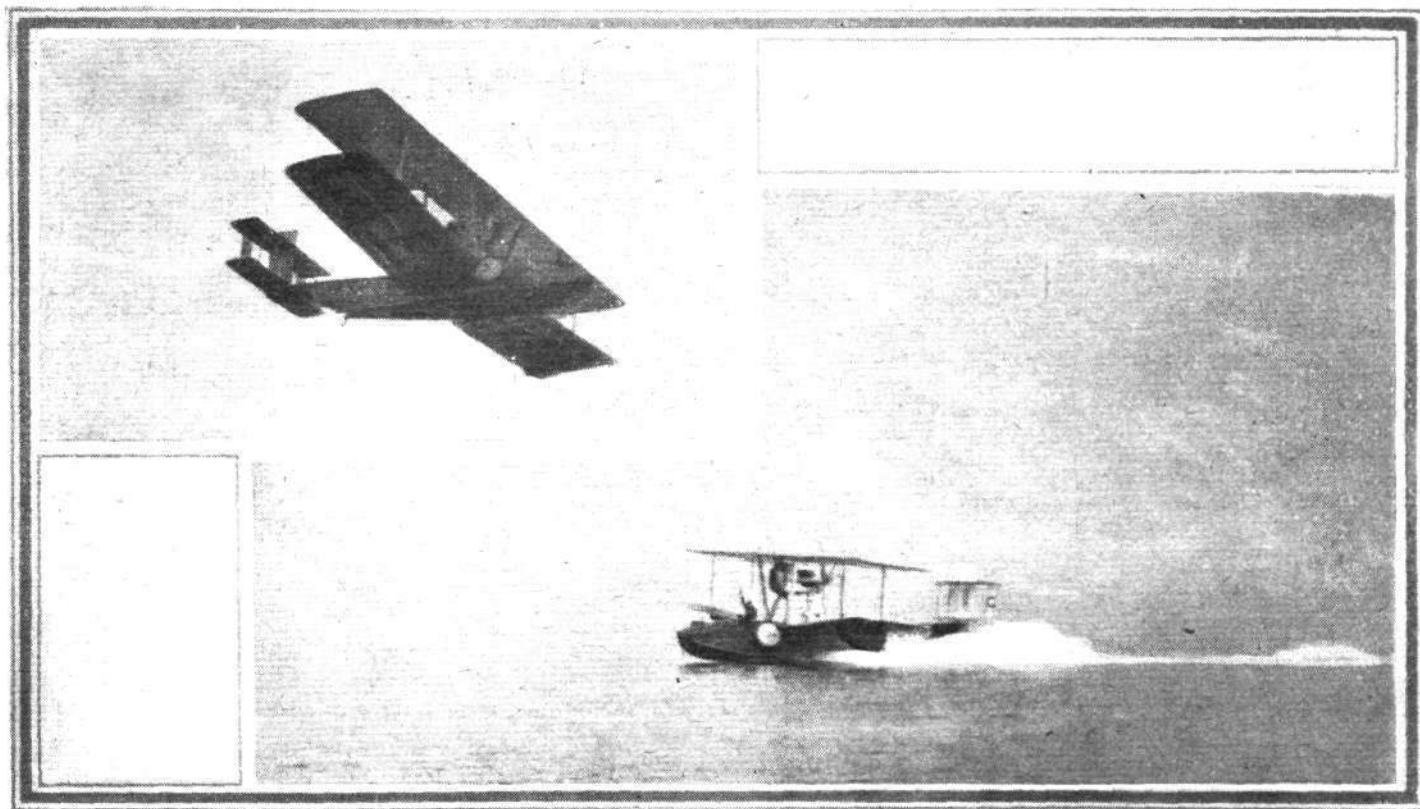
Progress of American Flight

THE three machines, piloted by Maj. Martin and Lieuts. Smith and Wade, which started from Santa Monica on March 17 at 9.32 a.m., arrived at Sacramento at 2.5 p.m. the same day. They started on the second stage of the flight at 9.48 a.m. on March 18, Martin and Smith arriving at Eugene, Oregon, at 4 p.m., and Wade, who had to force-land at Cottonwood, Cal., arrived shortly after. A start from Oregon was



AT THE START OF THE WORLD-FLIGHT: Discussing the great adventure. In the group may be seen Lord Thomson, General Sir Sefton Brancker, Mr. Hubert Scott-Paine and Mrs. Scott-Paine.

Santa Monica early the same morning, with the object of joining his companions. The following day, March 20, saw the arrival of the first three world cruisers at Seattle—where



THE START OF THE WORLD-FLIGHT. The Vickers "Vulture" taking off and, inset, passing over Calshot "outward bound."

made on March 19 at 11 a.m. and all three machines arrived safely at Vancouver, Wash., completing the third section. Lieut. Nelson, the fourth member of the expedition, left

the long air journey really begins—Lieut. Nelson joining the party later on. At the time of writing, all four machines are thus at Seattle, waiting to start off on the Pacific crossing.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

ANNUAL GENERAL MEETING.

THE Annual General Meeting will be held at the Club premises, 3, Clifford Street, London, W. 1, on Monday, March 31, 1924, at 6 p.m. (not 5 p.m., as previously announced).

Agenda

1. Chairman's Report.
2. Election of Committee.

The following Members have been nominated for the nine vacancies on the Committee:—

Group-Capt. F. W. Bowhill, C.M.G., D.S.O., R.A.F.; Maj.-Gen. Sir W. S. Brancker, K.C.B.; Ernest C. Bucknall; Lord Edward A. Grosvenor; Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Lieut.-Col. J. T. C. Moore-Brabazon, M.C., M.P.; Lieut.-Col. M. O'Gorman, C.B.; Air-Commodore C. R. Samson, C.M.G., D.S.O., R.A.F.; Sir Mortimer Singer, K.B.E.

(The number of candidates nominated not exceeding the number of vacancies, no ballot is necessary.)

3. To elect Vice-President and Council for the ensuing year.

The following are recommended by the Committee:—

Vice-President.—The Duke of Sutherland.

Council.—S.A.I. Prince Roland Bonaparte; the Earl of Lonsdale; Admiral of the Fleet the Earl Beatty, G.C.B., O.M., G.C.V.O., D.S.O.; the Right Hon. Lord Hugh Cecil, M.P.; the Lord Howard de Walden; the Lord Montagu of Beaulieu, C.S.I.; Admiral of the Fleet the Right Hon. Sir Edward Seymour, G.C.B., O.M., G.C.V.O.; Admiral the Hon. Sir Edmund Fremantle, G.C.B., C.M.G.; the Right Hon. Sir Samuel Hoare, Bart., C.M.G., M.P.; Air Chief Marshal Sir Hugh M. Trenchard, Bart., G.C.B., D.S.O.; Sir David Salomons, Bart.; Sir Basil Zaharoff, G.B.E., G.C.B.; Count Henry de la Vaulx; the Right Rev. Bishop Welldon; Martin Dale; André Michelin.

4. To add to Rule 50 as follows:—

The subscription for members who are officers serving in the Royal Air Force or the Royal Air Force Reserve, or officers (past and present) engaged in the Air Ministry Departments, shall be £2 2s. per annum.

5. Motion by Comm. F. L. M. Boothby, R.N.:—

"That the Royal Aero Club should encourage all practicable branches of aeronautics alike, and that an equal proportion of the Club's energies and funds should be devoted to airships, aeroplanes, and seaplanes."

6. Presentation of the Gold Medal of the Royal Aero Club to Lieut.-Col. F. K. McClean, A.F.C.

H. E. PERRIN, *Secretary*.

RACING COMMITTEE

A MEETING of the Racing Committee was held on Monday, March 17, 1924, when there were present:—Major-Gen. Sir W. S. Brancker, K.C.B., in the Chair; Group-Capt. F. W. Bowhill, C.M.G., D.S.O., R.A.F.; Capt. R. J. Goodman Crouch; Lieut.-Col. M. O. Darby; the Lord Edward Grosvenor; Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Lieut.-Col. F. K. McClean, A.F.C.; Mr. W. O. Manning; and the Secretary.

Light Aeroplane Competition, 1924.—It was decided to hold the competition at Lympne during the second week in September, 1924.

Aerial Derby, 1924.—The Committee, after considering reports on various sites for the Aerial Derby, decided to hold this year's race at Lympne on August Bank Holiday.

At the Levee.

At the levee held by His Majesty the King at St. James's Palace on March 18 the following were amongst those present: Air Chief-Marshal Sir Hugh Trenchard, Principal Air Aide-de-Camp; the Rt. Hon. Lord Thomson, Secretary of State for Air; Air-Commodore T. I. Webb-Bowen; Air-Commodore J. M. Steel; Flight-Lieut. W. F. Dickson, etc. Amongst those presented to the King were: the Rev. C. Allen, M.A., Chaplain, R.A.F., Sqdn.-Ldr. C. Archbold, Flight-Lieut. D. Barron,

A course of about 40 miles will be selected and five circuits will be flown, making a total of approximately 200 miles.

The race for the Air League Challenge Cup, to be competed for by Royal Air Force pilots, will form part of the programme, and it is also hoped to arrange a race for light aeroplanes.

Wembley Exhibition.—It was decided that every effort should be made to hold a race meeting during the summer from Hendon in connection with the Empire Exhibition at Wembley.

COMMITTEE MEETING.

A MEETING of the Committee was held on Wednesday, March 19, 1924, when there were present: Lieut.-Col. F. K. McClean, A.F.C., in the Chair; Group-Capt. F. W. Bowhill, C.M.G., D.S.O., R.A.F.; Major-Gen. Sir W. S. Brancker, K.C.B.; Mr. Ernest C. Bucknall, Lieut.-Col. M. O. Darby, Lieut.-Col. A. Ogilvie, C.B.E., Lieut.-Col. M. O'Gorman, C.B., Mr. F. Handley Page, and the Secretary.

Election of Members.—The following New Members were elected:—

Flying Officer Herbert Victor Alder, R.A.F.

John Samuel James Craigen.

Squad.-Leader William Sholto Douglas, M.C., D.F.C., R.A.F.

Arthur Edward Francis.

Reginald Gladstone Green.

Gerald Lindsay Hunting.

Arthur Eyquem de Montaigne Jarvis

Archibald Norman Kingwill.

Flight-Lieut. Howard Oakley Long, D.S.O., R.A.F.

Francis Augustine Smith.

Flying Officer Humphrey Gerald Sullivan, R.A.F.

Sydney Ernest Taylor.

John Wallace Thomson.

Pilot Officer Athol George Stratford Tuke, R.A.F.

Ignatius Welby.

Pilot Officer Norman Young, R.A.F.

House Committee.—Report of Meeting of House Committee held on March 18, 1924, was received and adopted.

Racing Committee.—Report of Meeting of Racing Committee held on March 17, 1924, was received.

The following items were included in the Report:—

1. Two Seater Light Aeroplane Competition

Date and place of Competition.—Decision to hold the competition at Lympne not later than the second week in September.

Airworthiness Certificates.—Proposal by the Air Ministry to modify the regulations regarding Certificates of Airworthiness

2. The King's Cup

Further consideration of the proposal to hold a seaplane race.

3. Aerial Derby

Decision to hold the race at Lympne on August Bank Holiday.

4. Wembley Exhibition

Proposal to hold a meeting for Light Aeroplanes at Hendon during the summer, with a turning point at the Exhibition.

The report of the Racing Committee was adopted.

Timekeepers.—The following timekeepers were appointed for the year: Mr. E. B. Ebbelwhite, Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Major Loughborough; Mr. A. G. Reynolds.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

7953. Walter Theodore William Ballantyne, March 4, 1924

7954. Nevil Shute Norway, March 4, 1924.

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, *Secretary*.

Col. C. Collingwood, C.M.G., D.S.O., on appointment to command 1st Air Defence Brigade, Flying-Officer C. Dagg, A.F.C., Wing-Commander J. Fletcher, A.F.C., Flight-Lieut. C. Gifford, Flight-Lieut. R. Goddard, Sqdn.-Ldr. J. Graham, M.C., A.F.C., Flying-Offr. P. Harris, Sqdn.-Ldr. E. Harrison, Sqdn.-Ldr. T. Howe, A.F.C., Flying-Offr. O. Jones-Lloyd, Flight-Lieut. R. Meek, Group-Capt. C. Newall, C.M.G., C.B.E., A.M., A.D.C., on appointment as Air Aide-de-Camp to the King, Flight-Lieut. C. Stilwell, etc.

LIGHT 'PLANE AND GLIDER NOTES

FROM the Royal Aero Club announcements on p. 178 it will be seen that the Racing Committee of the Club has now decided to hold this year's light 'plane meeting at Lympne, and that the date has been fixed at the second week in September. Presumably this means that the machines will be at the Lympne aerodrome on Saturday, September 6, and that the actual competitions will commence on the morning of Monday, September 8, and continue until the evening of Saturday, September 13. In order to save time it would be as well to allow competitors to pass the erecting and dismantling tests on the Saturday so as to leave the whole week clear for the trials proper.

It will be remembered that the competitions are for light 'plane two-seaters with an engine capacity not exceeding 1,100 c.c., and that the Air Council have offered prizes amounting to £3,000, while the Duke of Sutherland has offered a prize of £500 for the best take-off and pull-up, while Capt. Wilson has offered a prize of £100 for the second best performance in this category. Full particulars of the competitions, which are being held under the competition rules of the Royal Aero Club, were published in our issue of March 6. Briefly, the object of the competitions is to produce a low-power two-seater, suitable for training purposes, and the performances will be judged on a basis of marks awarded for the greatest percentage figure obtained, this figure being calculated from the formula

$$\text{Percentage figure} = \frac{V_m - V_s}{V_s} \times .333,$$

where V_m is the maximum speed, V_s the stalling speed, and the decimal .333 represents the minimum percentage which will be accepted as qualifying a machine to be awarded marks in the competition. For each 1 per cent. in excess of 33.3 per cent. 8 marks will be awarded. Thus if $V_m = 80$ m.p.h., and $V_s = 30$ m.p.h., the percentage figure on which marks will be awarded will be $\frac{80 - 30}{30} \times .333 = \frac{50}{30} \times .333 = 1.334$, or 133.4 per cent., and the number of marks awarded will be 1067.2. Marks will also be awarded for short run in taking off and clearing an obstacle, and for pulling up after coming in over an obstacle representing a fence or hedge. But the number of marks that are likely to be obtained by a machine in this test is not likely to be nearly so important as those to be gained in the speed-range tests

WITH the decision to hold the meeting at Lympne few will quarrel. There was a certain amount of opinion which held that the competition should be held at one of the London aerodromes, in order to give the public an opportunity to see the latest types of light aeroplane; and while there is much to be said for this view it should be remembered that the competitions, although held under the competition rules of the Royal Aero Club, are mainly at the instigation of, and for the benefit of, the Air Ministry, who have offered the main prizes. This means that there is a very definite object in view, fundamentally different from the aims of an ordinary race meeting, and it might not be advisable to carry out the tests, which are to some extent of a scientific nature, before large crowds of spectators.

THERE is also the question of suitable country to be considered, as well as the problem of shed accommodation. Lympne appears to possess both to quite an unusual extent. The surrounding country is very suitable for forced landings, the aerodrome is fairly good, and the shed accommodation is excellent. Altogether we think the choice a wise one, more especially as it is foreshadowed that races for light 'planes will be held later at one of the London aerodromes.

WITH reference to the competitions, and to the kind of machines that are likely to be produced, it would appear that two courses are open to competitors: one is to design expressly for the conditions of the competitions, aiming at speed range at the expense of everything else. The other is to design the sort of machine which may be expected to appeal to the Air Ministry for school work, but which will not necessarily have a very good chance in the competitions. In the one case there is an immediate reward of about £2,000, while in the other there is the possibility of receiving a large order for machines. It is doubtful whether the winning machine in the competitions will be the one to be ordered by the Air Ministry.

By way of an example one may quote the single-seater competitions last year. Those of the machines that did best in the competitions were specially designed to win the prizes, but at least one type was designed to be an all-round useful machine. The result was that this type did nothing in the way of winning prizes, but on the other hand it has since been ordered in preference to some of the prize-winners. It is well-nigh impossible so to design the rules of a competition that the winning machine shall be the one possessing the identical features aimed at, and there is no reason to expect that the Lympne meeting will prove an exception to this rule.

THE Vickers "Viget" light biplane has been doing quite a lot of flying lately at Brooklands, and the performance is now little short of startling. Piloted by Squadron-Leader Payn, who joined Vickers some months ago, the "Viget" loops, rolls, spins, etc., and on several occasions has been flown upside down for quite longish periods. Squadron-Leader Payn is delighted with the machine, and seems to be able to do exactly as he likes with it. The Douglas engine has had a new crankshaft put in, and has been fitted with a different carburettor, and the result has been a vast improvement all round.

HITHERTO it has been a rule, almost a rule without exceptions, that whenever a competition was on, the machines entered for it were started about a fortnight beforehand and finished while the pilot was making his first lap in the competition so to speak. That this will not always be so seems to be indicated by a visit to the A.N.E.C. works at Addlestone, where the fuselage of the two-seater being built for the Lympne competitions is rapidly nearing completion. The machine is very beautifully finished, and the workmanship put into its construction is of the highest order. The wings will be coming along next, and altogether it looks as if the 'bus should be ready in a couple of weeks or three. This will leave plenty of time for tests, and the pilot who is to fly the machine at Lympne will have time to find out all there is to be found out about it. This will naturally be a great advantage, and the example set by the Air Navigation and Engineering Company might with advantage be followed by others.

THE final rules and regulations for the French "Tour de France des Avionnettes" have now been issued. The competition, which is for single-seaters and two-seaters with engine capacities of 2,000 c.c. and 3,000 c.c. respectively, will be held from July 24 to August 10, under the patronage of M. Laurent Eynac, French Under-Secretary of State for Air. Eliminating trials will be held at one of the aerodromes near Paris on July 24 to 26. The actual start of the competition from Paris will take place on Sunday, July 27, and the order of starting will be decided by drawing lots. The total distance to be covered will be approximately 2,500 kilometres (1,550 miles), divided into eight stages, of which the longest will be of 400 kilometres (250 miles). Flying will only be carried out on alternate days, Sunday, July 27; Tuesday, July 29; Thursday, July 31; Saturday, August 2; Monday, August 4; Wednesday, August 6; Friday, August 8; and Sunday, August 10. The competition will be a speed race, the prizes being divided into two classes: those for fastest time for each stage and those for fastest total time over the whole course.

THE prizes for the stage-by-stage section amount to 48,000 francs, with the following prizes for each stage: 1st, 3,000 francs; 2nd, 2,000 francs; and 3rd, 1,000 francs. In the total the prizes are 1st, 7,000 francs; 2nd, 5,000 francs; and 3rd, 3,000 francs. In addition to these amounts, it is expected that prizes will be offered by many of the towns at which landings are compulsory. The competition is international, and it is hoped that several English machines will take part. Full particulars may be obtained from the Association Française Aérienne, 40, Quai des Celestins, Paris 4e and entries will be received at the same address up to June 30 at 6 p.m. The entrance fee is 200 francs, of which half will be refunded to machines passing the eliminating trials. Particulars relating to these were published in FLIGHT of December 13, 1923, in our "Light 'Plane and Glider Notes." Machines are required to carry an airworthiness certificate, of which a special one will be issued by the French authorities. In the case of British machines the Air Ministry certificate will be accepted.

AUXILIARY AIR FORCE, AIR ESTIMATES, ETC.

IN the House of Lords, on March 20, Lord Thomson, Secretary of State for Air, moving the second reading of the Auxiliary Air Force and Air Force Reserve Bill, said the purpose of the measure was to enable the Air Ministry to start recruiting on a suitable basis for thirteen non-regular squadrons, which would form part of the Air Force home defence force. As in the case of the Territorial Army, it would be possible under existing powers to establish an auxiliary air force on a county basis, but that method had been found not to be sufficiently elastic. The Air Ministry desired to take full advantage of the readiness of the Territorial Associations to assist, and the Ministry proposed to set up County Joint Associations. As a general rule, this system of County Joint Associations would be adhered to so long as it proved successful, but alternatively, as the scheme developed, both Territorial Associations and the Auxiliary Air Force Associations separately might be necessary in certain cases. Provision was being made for a third contingency where the Auxiliary Air Force Association would exist not for one county, but for two counties, or for a large industrial centre, or a group of towns. This third alternative form of association would not be formed in any area within the purview of the County Joint Association.

The bill contained a special definition of what was meant by home service. It was obligatory for any would-be officer or recruit to accept liability to be called up within the British Isles in defence of these isles against actual or apprehended attack, independently of the embodiment of the force. A flight on home service was one in which the points of departure and of intended return were within the British Isles or territorial waters, notwithstanding that the course of the flight might extend beyond those limits. The primary function of the Auxiliary Air Force was exactly the same as that of the Territorial Army—namely, home defence. It was hoped to raise six squadrons for this purpose. It was hoped to start recruiting for two squadrons in the summer in the London area, and possibly for a third squadron in the Glasgow area in the autumn.

There would also be the Special Reserve, the proposal being to form seven special reserve squadrons for the home defence force. The personnel of these squadrons would consist as regards two-thirds of special reservists and one-third of regulars. The endeavour would be made to throw the net wide and catch not only men who were willing to serve as citizen soldiers in the Territorial Air Force, but also those who desired some closer association with the Regular Army. Enlistment and calling-up under the bill could be applied, notwithstanding anything in the Act of 1907 dealing with the Territorial Reserve Force, either to the Reserve or to Special Reserve, whether or not they had served in the Regular Air Force. That would preserve elasticity. Special reservists would be liable to be called up independently of general mobilisation. At least one special reserve squadron would be called up in the autumn, and there were hopes of making it two or even more. The bill provided for an Order in Council, in case of emergency, giving such directions as might appear necessary for calling out the Auxiliary Air Force or the Air Force Reserve, or both. The organisation of the Special Reserve was to a great extent experimental. For the first time a non-regular element was to be introduced into the Air Force. The object of that was to identify air defence with national life. As the auxiliary squadrons were associated with special areas, so the special reserve units would be provided with peace aerodromes in selected areas, such as industrial centres. In this way it was hoped to attract skilled mechanics who would require the minimum of technical training.

Earl Beauchamp said that the Territorial County Associations had done admirable work, and he would be very sorry to see them displaced by new organisations to deal with this new branch of work. He would rather it were done by sub-committees of the County Associations than by independent bodies.

The Marquis of Londonderry said he did not think there was anything of a controversial character in the bill at all. In fact, it was almost identical with the bill framed by the Minister's predecessor. The country would benefit to a large extent if enthusiasm in the Air Force could be stimulated among the younger generation, so as to encourage them to equip themselves in the knowledge requisite for becoming efficient pilots.

Lord Thomson said that in the case of all the six squadrons which it was proposed to form to begin with, it was intended to make use of the Territorial Associations. All the Bill did was to take power to set up other associations which would be

used if necessary. That necessity might never arise. They had an agreement with the Imperial Air Transport Company for all their pilots and technical *personnel* to belong to the Air Force Reserve. He was inclined to think himself that there would always have to be a dual organisation. As regards stirring up enthusiasm in aviation, no effort would be spared. They had to get people up into the air. Whether they would have to do it by means of airships or aeroplanes, he had not yet decided.

The Bill was read a second time.

On March 20 the House of Commons went into Committee of Supply, on a vote for 35,000 men of all ranks for the Air Service.

Sir Geoffrey Butler said the Estimates were founded on certain principles, and for the Government to taken them over without taking over the principles was to take the husks without taking the kernel. They wanted the Government to descend to details and to foreshadow reforms. The Government must remove the stigma that the Air Force was a blind alley or the future of the force would be prejudiced. Steps should be taken to establish a sympathetic understanding with the various research centres of the country. He believed the country would not long suffer the Air Force to remain in the nerveless grasp of the Government.

Lieut.-Colonel Meyler, who mentioned that he had served for four and a half years with the Air Force, said that there was one branch of the force which had been almost, if not entirely, obliterated since the War, and that was the balloon section. The value of that section was far greater than many people realised, and he hoped that the experiments which had been going on to improve the type would be continued. In war time even a single observer in a single balloon was able to do work of enormous value. He remembered that on one occasion an attack by five German divisions was frustrated by one observer in a balloon on a day when other aircraft could not fly.

Major-General Seely said that even the most pacific man, even the Under-Secretary for Air, was convinced that although an aeroplane was not an answer to another aeroplane, in the sense that it could not give protection from attack, it was the only one there was except the Sermon on the Mount. He wished to deny the truth of statements, made in irresponsible quarters, that the use of air power in Irak, Palestine, Somaliland, and on the Indian frontier had been indiscriminate and cruel. On the contrary, if air power was directed by air officers in conjunction with political officers, it was far more discriminating than the use of indirect artillery fire. It was the most merciful and the most direct form of attack. Moreover, it was infinitely less expensive than others.

Commander Burney said the Committee should realise that the development of air power might be of great advantage to this country. He very much regretted that the Estimates did not contain that assistance to commercial and civil aviation which he would like to see.

Owing to the focus of naval power having shifted to the Pacific Ocean, we had to control three times the area of water than hitherto. If airships were properly developed, they would be able to carry out all the functions of patrol and reconnaissance required over large areas at a cheaper rate than would be possible by cruisers or the ordinary circuit Navy. An analysis of the cost of patrolling 1,000 square miles of the ocean by means of airships and light cruisers showed that the cost by airship would be 25s. and by light cruisers £77 10s. That was merely running costs. For capital costs they would require to spend £55,000,000 on light cruisers to give the same patrol and reconnaissance power which they could get with airships for £3,500,000. By adopting airships, the annual upkeep would be reduced by £11,000,000.

He believed it would be possible to construct airships to travel from this country to India in something like seventy-two hours, carrying 140 people, and at a cost less than going by the P. and O. Co. at the present time, and that these airships could be made perfectly safe.

Lieut.-Commander Kenworthy said that it was most important that the mail to India should be quickened. Surely if the whole route could not be flown, a large portion of it could. He suggested that this service should be entrusted to the Royal Air Force rather than to a private company, as there was a very strong case in favour of this new service being a national service.

Lieut.-Colonel Moore-Brabazon said that although he was very strongly in favour of the New Testament as to the relations between one country and another, as a matter of

practical politics one had to combine the New with the Old. If some of the hon. members opposite adopted a purely New Testament attitude at the election very few of them would be returned. As to aeroplanes not being a protection against aeroplanes, the records of the War showed that from the point of view of enemy machines brought down, enormously the greatest number were brought down by fighting in the air. There was a great future for air mails by linking up steamship services and train services, so that mails could arrive on the Continent in the morning, be taken on by air until darkness, and then during the night by rail. He pleaded that the rigid airship might not be dismissed from consideration altogether, and that old types of such machines might not be relied upon for testing purposes. Airships could carry immense weights for immense distances, and could travel by night. They had great possibilities—greater for this country and Empire than for any others. On the question of research, he had always thought that the Air Ministry looked on aeronautics too much from the point of view of a military machine; there was no other side with which they were concerned. But the Air Ministry were in charge of the whole of aeronautics in this country, and the most important branch was research. Yet there was no one responsible for research on the Air Council. In air fighting it was of tremendous importance that one's machine should be technically better than the machine of one's opponent. It was no good sending 1,000 derelict machines against 1,000 better ones; it was far better to send 600 good machines. There was no form of warfare in which technical superiority was so essential. They should concentrate with all the money they possibly could on the research and technical side of aviation, so as to become superior to any other country.

Mr. Hardie said that all pacifist members would support the voting of money for civil aviation purposes. Too much money could not be spent on research. We could only remain a great nation by giving the most minute attention to every scientific detail which concerned our life.

Sir J. Simon agreed that the Government had no alternative but to submit this increased estimate to the House, for we could not run obvious and palpable risks in the matter if we could possibly secure ourselves, in some degree, on reasonable terms of insurance. The whole House, of course, accepted with complete confidence the assurance given by M. Poincaré to the Prime Minister that the French aerial establishment was exclusively designed to defend France from attempted German revenge. But the French aerial preparation made it unhappily necessary for us to enlarge our preparations. At the Armistice this country was in possession of an admirable force, but we deliberately cut it down to the bone. He should like to know what was the view of the Air Minister as to the possibility of proposing some form of limitation, at any rate as regarded bombing machines.

Sir H. Brittain urged the Air Ministry to do everything possible to further the development of aeroplane services to all parts of Europe. The service between London and Prague should be put into operation without unnecessary delay. Prague was the great key city of Central Europe, and both the Government and the people there were eagerly looking forward to the close connection of their capital with London. This country ought to take the same part in the forthcoming Aviation Exhibition at Prague as we did at Gothenburg. He hoped the Under-Secretary would follow the example of Sir S. Hoare last year, and visit different parts of Europe by air.

Sir S. Hoare said there was a great field for the universities in the direction of research. If they could devote themselves to the solution of certain definite aeronautical problems they would be doing a great deal for the progress of science and aviation generally. He would ask hon. members opposite, who in some cases might be prejudiced against the military side of aviation, to do what several members of the Labour party did last year—make a visit to one of the educational establishments connected with the Air Ministry. They would there see really first-class education—for the mind, brain, and hand—being given to boys and young men who were entering the service. When he was Secretary for Air, he understood the air policy of the Government of that day to be that sufficient air power should be provided for the wants of the Navy and the Army and for overseas garrisons, and, most important of all, that the air power for home defence must be adequate for any contingency that might arise. Did the present Government accept those objectives as the objectives of their policy?

Mr. Leach said that the short service commission scheme was not his, but in his opinion it was a good one, and ought to be extended. The Ministry were asking for more money on behalf of research, and the work that was being undertaken

through that expenditure was the kind that would be approved by the Committee. Research was being conducted in the field of aerodynamics and also of physics. They were going very carefully into engine research and navigation. They were exploring the control of aeroplanes at low speed, the increase in the lifting capacity and the improvement of the hull of flying boats. They were also paying due regard to the development of kite balloons. This was proceeding systematically and would continue to do so throughout this year and next year. The question of single-seater balloons had not been lost sight of, but at present it was difficult to say much about them. The Ministry were going into the question of the heating and ventilating of passenger cars, and were developing light aeroplanes in every way possible. They were seeking to develop the heavy oil engine, and were doing what was possible to promote devices for landing in fog, and new types of aircraft were being explored. He had been asked so often what was the Government's policy that perhaps it would be well to say what was not the Government's policy. The Government's policy was not reduction; it was not disarmament; it was not non-resistance. The Government was not stating next year's programme. He was not prepared to commit the Government to anything further than the present year's forthcoming programme, on account of the opportunities and international agreement that might arise. Should nothing arise in the course of this year to permit any deviation from that programme, presumably it would be developed on the lines laid down by the Government's predecessors.

He could say little regarding lighter-than-air machines. It was under consideration by a Cabinet Committee, and the Government meant to explore the matter thoroughly in order to develop airships, if there was any possible future for them. As to an air-mail service to India, the Civil Advisory Board reporting on the possibility of such a service, recommended that research should be conducted to discover the right type of machine. Experimental machines had been ordered for that purpose. They were endeavouring to place orders for aeroplanes and engines during the coming year in such a way that there should be continuity of employment. With regard to a London to Prague service, he would like to see this started, and the Ministry would do what it was possible for them to do to facilitate the putting of this scheme on its feet. The difficulties lay in the disabilities that had been put upon Germany under the Versailles Treaty. The nearest way to Prague was over German territory, and the disabilities which had been put upon Germany in regard to her aeroplane industry were such as to make her unwilling to give this country facilities and rights which she did not enjoy. If those difficulties could be removed the projected London to Prague service would be brought a great deal nearer.

The system of Dominion co-operation for the purpose of training pilots on common methods was not forgotten, and arrangements were being made with the Governments of Canada, Australia and New Zealand.

Captain W. Benn expressed disappointment that no ground had been given for hope that the Government were taking definite steps towards some practical agreement of mutual aerial disarmament.

Rear-Admiral Sueter urged that the Estimates did not provide enough money for home defence.

The vote was agreed to.

On March 24 the Report of Vote A for 35,000 of all ranks of the Air Force was agreed to without discussion.

On the Report of Vote I for £2,941,000 for the pay and allowances of the Air Force for 1924-25,

Lieut.-Comdr. Burney expressed the opinion that the number of non-combatant ranks in the Force was unnecessarily large, and that considerable economy could be effected by greater co-ordination of the Services.

Lieut.-Col. L. Ward considered that over £38,000 was rather an excessive sum to spend on salaries for the Air Ministry meteorological stations. He asked whether it would not be possible to give reasonable encouragement to amateurs, and so save a considerable portion of this sum.

Mr. Black called attention to what he termed the excessive salaries paid to chaplains in the Air Force.

Mr. Leach, Under-Secretary for Air, said that the number of chaplains in the Air Force was as follows:—Church of England, 19; Roman Catholic, 4; Presbyterian, 3; Wesleyan, 3; United Board (which covered Baptists, Congregationalists, Primitive Methodists, and United Methodists), 3. The pay started at £355 and £565 a year for unmarried and married chaplains respectively, rising after 24 years' service to £800 and £1,040. The appointments were open to qualified applicants, who were selected by a small board representative of all the denominations and presided over by the Air Minister.

As to Lieut.-Col. L. Ward's criticism of the salaries of the men in the meteorological stations, he said that the sum did not appear to him to be excessive, but he would investigate the matter and see whether any reduction was possible.

Lieut.-Col. Moore-Brabazon urged that some of the money earmarked for research should be devoted to the study of meteorology, a science which was not well understood. If this were done so that the state of the weather could be told exactly beforehand, not only the Air Force but the whole community would derive immense benefit.

The resolution was agreed to.

The Report of the resolutions, also passed in Committee of Supply, voting £2,127,000 for works, buildings, and lands, and £1,452,000 for stores (except technical), supplies, and transport, were agreed to without discussion.

On the Report of the Vote of £5,700,000 for technical and warlike stores.

Mr. Acland said the use of bombing machines practically meant the indiscriminate destruction of the civil population, and no ordinary method of limitation of armaments touched the question at all. There was need for a very special inquiry, taken part in not only by aerial experts, but by statesmen and men of professed humanity and religion, to find a way out of this terrible business, which threatened to take them back to absolute barbarism.

Rear-Admiral Sueter commenting on the expenditure on machines and engines, said he could not understand where all the money went, in view of the fact that we had only 80 first-line machines. Nearly £500,000 had been spent on research work at Farnborough, and he asked what single thing had been produced for that sum. Was it necessary to send up machines to take cinema films? Was any department told off to inspect machines to see if they were airworthy? A very gallant officer, Colonel Travers, lost his life the other day at Croydon. It was said that he got into an air pocket. Was that machine inspected by any technical expert to see if it was airworthy?

Mr. Hardie advocated the manufacture in this country of industrial alcohol for the purposes of civil aviation.

Lieut.-Col. Howard-Bury, insisting that the correct view was that the Air Force was intended for defence, and not offence, urged that research should be directed to finding out the most efficacious method for securing the defence of this country against air attacks.

Mr. Leach, replying to the various points raised, said he was informed by his advisers that for night work civil passenger aeroplanes could be successfully used for bombing purposes, but for day work they could not be regarded as of any serious account for war purposes. He supposed that to the question whether the National Physical Laboratory had

enough money, the answer must be in the negative. An attempt was being made to supply it with a little more this year. They had been doing all that was possible to prevent the recurrence of accidents. The Air Ministry itself did not indulge in film work, but it had given permission for the Wembley Exhibition authorities to take films of the kind of work which the airmen had to do. The particular accident to which reference had been made took place after the filming was over. Civil aeroplanes were carefully inspected at the beginning of every flight and on return after every flight. Our regulations for the prevention of accidents were probably the most stringent of those of any nation in the world. Measures were taken to ensure that the petrol supplied was of the proper specification. Turning to the question of lighter-than-air ship investigations, he said it would be against the practice to give the names of the Cabinet Committee which was considering the subject. They were in a position to call as witnesses all practical officers and technical experts. The member for Hertford was dissatisfied with the number of first-line aeroplanes compared with the expenditure which was being incurred, but there was included all the necessary reserve equipment that went along with them. This year they were ordering, and expected to have delivered, 500 aeroplanes of one sort or another. As to the helicopter, it was true that the Government had spent large sums in research work and some little progress had been made. He could not say at present whether the promise of something really successful out of these investigations would ever be realised. Certainly it was felt that it was worth while to continue the investigations, and lose no chance of any possible discovery in that line. He had been asked whether the Army would be satisfied with the measure of co-operation that was now going on and with the number of machines that were being supplied to it under that co-operation. The fullest consultation between the two Service heads was continually going on. He had not heard any complaints with regard to the co-operative working that had been established, which he had every reason to suppose was very successful and efficient.

Sir P. Richardson complained that the House had not been informed of the extent to which we must be prepared to meet any foreign attack. The right principle to adopt, he submitted, was that we should have a sufficient Air Force to make an efficient attack upon an enemy, so that it would not be worth while for an adversary to attack us, because we should be able to make it unprofitable to him.

The resolution was agreed to.

Leave having been given, the Army and Air Force Annual Bill was brought in by Mr. Ammon, Parliamentary Secretary to the Admiralty.

THE AUXILIARY AIR FORCE AND AIR FORCE RESERVE

Abstract of Text of Bill

THE text of the Bill which it is necessary to pass in order that the Home Defence scheme formulated by the last Government, and the first stage of which is to be carried out under the present one, was issued on March 12, and may be obtained from H.M. Stationery Office, Kingsway, W.C.2, price 3d. net.

Under the Air Force (Constitution) Act of 1917, His Majesty was empowered, by Order in Council, to apply to the air force reserve or to the auxiliary air force any enactment relating to the army reserve or to the territorial force. Under this Bill it is intended to extend the power of applying these enactments so as to enable substantial changes to be made in them in their application to the auxiliary air force and air force reserve. The principal changes are:

Auxiliary Air Force

(1) That County associations may be established under Part I of the Act of 1907, which may administer both the territorial army and the auxiliary air force within the county, and that this arrangement may, if it is thought desirable, be terminated, in which case separate associations may be formed for purposes of the territorial army only (as at present) and of the auxiliary air force respectively.

(2) That a condition may be imposed on officers and men of the auxiliary air force that they shall undertake liability to be called up for service within the British Islands in case of actual or apprehended attack in defence of the British Islands, whether or not the army reserve or air force reserve have been called out on permanent service.

Air Force Reserve

(3) That men may be enlisted into the reserve either as reservists or as special reservists, whether they have previously served in the regular air force or not.

(4) That a condition may be imposed on reservists similar to that referred to in para. 2 above in the case of men of the auxiliary air force.

(5) That men may be enlisted into the reserve as special reservists for service within the British Islands only, as well as those enlisted with the liability to serve outside the British Islands.

Of special clauses in the Act reference may be made to two. The first of these states that in the Act references to the British Islands shall be construed as exclusive of the Irish Free State, while the second lays down that "service on any flight of which the points of departure and intended return are within the British Islands or the territorial waters thereof, shall be deemed to be service within the British Islands notwithstanding that the flight may in its course extend beyond those limits."

The clause which stipulates that the auxiliary air force and air force reserve must undertake the liability to be called up for service whether or not the army reserve has been called out on permanent service forms an interesting indication of the manner in which it is contemplated that the first units to go into action in case of an attack on the British Isles may be those of the air. It is, of course, realised that in all probability the first attack in a future war will be an air attack, but it is nevertheless interesting to see this confirmed by the stipulations of the present Bill.

THE ROYAL AIR FORCE

London Gazette, March 18, 1924

In pursuance of His Majesty's pleasure the Rev. H. D. L. Viener, C.B.E., M.A., Chaplain-in-Chief, R.A.F., has been appointed an Hon. Chaplain to the King (March 7).

General Duties Branch

The following Flight-Lts. are granted permanent commns. in rank stated (March 19):—H. J. Collins, P. H. Cummings, D.F.C., A. S. G. Lee, M.C., E. M. Pollard, Lt. T. H. J. Wright, Seaforth Highrs., is granted temp. commn. as Flying Officer, on seconding for four years' duty with R.A.F. (March 15). The following Pilot Officers on probation are confirmed in rank:—J. E. Doran-Webb (February 14); A. R. Buchanan (February 19).

Medical Branch

Flight Lt. (Hon. Sqdn. Leader) A. G. Lovett-Campbell, M.B., relinquishes his temp. commn. on account of ill-health (March 1).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Air Vice Marshal J. F. A. Higgins, C.B., D.S.O., A.F.C., to H.Q., Iraq Command, pending taking over command. 13.3.24.

Group Captain: W. F. MacNeece, C.B.E., D.S.O., D.F.C., to Air Ministry for Air Staff (Operations) duties. 10.3.24.

Wing Commander R. C. M. Pink, C.B.E., to No. 2 Wing H.Q., India, to command, instead of to No. 1 Wing H.Q., as previously notified. 23.11.23.

Wing Commanders: D. L. Allen, A.F.C., to Air Ministry for Tech. Staff duties. 10.3.24. J. T. Cull, D.S.O., to H.M.S. "Hermes" to command R.A.F. Unit. 19.2.24. W. G. S. Mitchell, D.S.O., M.C., A.F.C., to R.A.F. Depot on transfer to Home Estab. 15.2.24. W. G. S. Mitchell, D.S.O., to No. 1 Flying Training Sch., Netheravon (to command from 1.4.24). 28.3.24. A. J. Miley, O.B.E., to H.M.S. "Argus" pending taking over command of R.A.F. Unit. 8.3.24. J. N. Fletcher, A.F.C., to R.A.F. Depot, pending disposal. 1.4.24.

Wing Commanders: W. C. Hicks, A.F.C., to Aircraft Depot, India, to command. 16.12.23. E. H. Johnston, O.B.E., to H.Q., India, for Air Staff duties. 23.2.24.

Squadron-Leaders: A. R. Arnold, D.S.C., D.F.C., to H.Q., Iraq. 22.2.24. R. L. G. Marix, D.S.O., to Air Ministry. 15.1.24.

Squadron Leaders: P. C. Maltby, D.S.O., A.F.C., to R.A.F. Depot on transfer to Home Estab. 13.2.24. A. C. Maund, C.B.E., D.S.O. and O. G. W. G. Lywood, C.B.E., to R.A.F. Depot, on transfer to Home Estab. 15.2.24. A. G. Horsley-Carr, O.B.E., to Experimental Station, Porton. 4.4.24. J. K. Wells, A.F.C., to Armament and Gunnery Sch., Eastchurch. 17.3.24.

Squadron Leaders: J. C. P. Wood to Aircraft Depot, Iraq. 25.2.24. E. R. Manning, M.C., to Aircraft Depot, Egypt. 20.1.24. E. A. Beaulah, to Aircraft Depot, India. 10.3.24. J. M. Robb, D.F.C., to No. 30 Sqdn., Iraq. 19.1.24. H. P. Lale, D.S.O., D.F.C., to No. 32 Sqdn., Kenley. 15.4.24.

Flight-Lieutenants: E. P. Hardman, D.F.C., to R.A.F. Depot on transfer to Home Estab. 29.1.24. B. E. Baker, D.S.O., M.C., A.F.C., to Aden Flight. 19.2.24. A. M. Blake, A.F.C., to Egyptian Group H.Q. 23.2.24. G. C. Gardiner, D.F.C., to No. 2 Flying Training Sch., Duxford. 1.3.24. A. H. Beach to No. 5 Flying Training Sch., Shotwick. 1.3.24.

Flight Lieutenants: D. Gilley, D.F.C., to H.Q. Inland Area, Uxbridge. 7.4.24. T. J. West, M.C., to No. 19 Sqdn., Duxford. 1.4.24. A. L. Fiddament, D.F.C., to No. 2 Sqdn., Andover. 1.4.24. E. H. Richardson to Aircraft Depot, India. 21.2.24. F. O. Soden, D.F.C., to No. 41 Sqdn., Northolt. 1.4.24. E. H. Hooper to No. 5 Flying Training Sch., Shotwick, for course of instruction. 15.3.24.

Flight Lieutenants: D. H. Dabbs to R.A.F. Depot, on transfer to Home Estab. 22.2.24. A. H. Pearce, D.F.C., to R.A.F. Depot, on transfer to Home Estab. 26.1.24. P. C. Wood to H.M.S. "Hermes." 19.2.24. J. W. Woodhouse, D.S.O., M.C., to No. 111 Squadron, Duxford. 1.4.24. E. J. Cooper, D.S.C., to Aeroplane Experimental Estab., Martlesham Heath. 19.3.24. R. Harrison, D.F.C., to Boys Wing Cranwell. 7.4.24. J. Lawson to H.Q. Inland Area, Uxbridge. 24.3.24.

Flying Officers: A. E. Reynolds, to No. 25 Sqdn., Hawkinge. 10.3.24. R. F. Casey, D.F.C., to Aircraft Depot, India. 8.2.24. E. M. Milling, A. Jerrard, V.C., and C. S. Riccard, to No. 5 Flying Training Sch., Shotwick. 1.3.24. G. S. L. Hayward, M.C., and D. P. Hadow, M.C., to No. 2 Flying Training Sch., Duxford. 1.3.24. J. B. Allen, to R.A.F. Cadet College, Cranwell. 1.3.24. T. MacM. Shields, D.F.C., and K. H. Holley, to No. 24 Sqdn., Kenley. 1.3.24. J. N. Boothman and R. H. Stocken, to Central Flying Sch., Upavon. 1.3.24. F. Beesley and W. L. Dawson, to No. 1 Flying Training Sch., Netheravon. 1.3.24. G. W. Birkinshaw, to No. 25 Sqdn., Hawkinge. 13.3.24. W. G. Kentfield, to Inland Area Aircraft Depot, Henlow. 24.3.24. D. S. Buchanan, to R.A.F. Depot (Non-effective Pool). 1.3.24.

Flying Officers: W. J. Eldridge, D.S.O., M.C., to Sch. of Army Co-operation, Old Sarum, on transfer to Home Estab. 22.2.24. H. W. Allen, A. G. Hill and A. H. J. Howlett, to R.A.F. Base, Gosport. 8.3.24. B. H. Godfrey, to R.A.F. Depot, on transfer to Home Estab. 13.11.23. C. A. Elliott, to R.A.F. Depot, on transfer to Home Estab. 13.2.24. H. K. Goode, D.S.O., D.F.C., to R.A.F. Depot, on transfer to Home Estab. 15.2.24. G. E. F. Boyes, to Sch. of Army Co-operation, Old Sarum. 17.3.24. M. W. J. Boxall, to No. 7 Sqdn., Bircham Newton. 17.3.24. C. A. Ravn, to Sch. of Army Co-operation, Old Sarum. 17.3.24. S. H. Reynolds and W. H. Jinman, to H.M.S. "Hermes." 19.2.24. W. F. R. Gough; R. H. Stewart Peter; R. Kennedy and R. O. Rigg, to R.A.F. Base, Leuchars. 17.3.24. H. T. Herring and A. N. MacNeal, to R.A.F. Base, Gosport. 17.3.24. B. H. Godfrey, to Sch. of Tech. Training (Men), Manston. 1.4.24. J. R. Bell, D.F.C. and E. H. Searle, to Boys' Wing, Cranwell. 1.4.24. W. Sanderson, A.F.C., to H.Q. Coastal Area. 1.4.24. L. Darvall, M.C., to No. 20 Sqdn., India. 19.2.24. H. H. S. Scott, D.S.M., to No. 1 Sch. of Tech. Training (Boys), Halton. 24.3.24. R. Menzies, to Sch. of Tech. Training (Men), Manston. 2.4.24. J. Dunn, to No. 208 Sqdn., Egypt. 5.3.24. J. J. C. Cocks, to No. 11 Sqdn., Bircham Newton, instead of to No. 7 Sqdn., as previously notified. 7.3.24. A. N. MacNeal, to R.A.F. Base Leuchars, instead of to R.A.F. Base, Gosport, as previously notified. 17.3.24. R. Kennedy, to R.A.F. Base, Gosport, instead of to R.A.F. Base, Leuchars, as previously notified. 17.3.24.

Reserve of Air Force Officers

The following are granted commns. on probation in General Duties Branch in ranks stated (March 18):—

Class A.—Flying Officers.—D. C. Anderson, G. Bliss, M.M., G. G. McHardy R. H. McIntosh, E. J. Smart, F. V. Webb. **Pilot Officers.**—C. F. Arthur, C. R. Cottrell, N. G. Durham, L. D. Hamblin, J. J. Hickman, L. D. P. Joseph, J. H. C. Wake.

Class B.—Pilot Officers.—E. Crewdson, M.C., H. S. Howard, A. G. Squire. The following are confirmed in rank, with effect from dates indicated:—**Flying Officers.**—L. Reynolds (February 21); R. C. Berlyn (February 23); J. S. Snedden (February 27); D. B. C. Fulton (February 29); J. A. Craig, D.F.C. (March 5); L. Rawlinson (March 5); N. S. McConnell (March 18). **Pilot Officer** F. J. Letzer (February 27).

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Medical Branch

The following are dismissed the service by sentence of Field General Court Martial (December 9, 1923):—

Squadron-Leader J. H. Porter, M.C., M.B.; Flight Lieut. P. J. Flood.

Flying Officers: J. D. S. Denholm to No. 4 Armoured Car Co., Iraq. 1.3.24. J. C. Walker to No. 5 Armoured Car Co., Iraq. 26.2.24. C. E. Stuart to No. 14 Sqdn., Palestine. 23.12.23. H. V. David to No. 84 Sqdn., Iraq. 4.3.24. R. Duncanson to No. 84 Sqdn., Iraq. 29.2.24. D. H. Humphreys to Night Flying Flight, Biggin Hill. 29.3.24. A. Lanman, A.F.C., to Sch. of Tech. Training (Men), Manston. 15.4.24. E. R. C. Hobson, D.F.C., to No. 56 Sqdn., Biggin Hill. 29.3.24. H. J. Wykes to No. 12 Sqdn., Andover. 24.3.24. W. N. L. Cope to R. A. F. Base Leuchars. 1.4.24. R. L. Bateman to R. A. F. Depot on appointment to a Short Service Comm. 18.3.24. R. F. Carter, A. L. R. Duke, W. F. Humphrey, M. E. B. P. Storrie and G. N. P. Stringer, all to No. 5 Flying Training Sch., Shotwick, on appointment to Short Service Commns. for course of instruction. 15.3.24. T. H. J. Wright to No. 5 Flying Training Sch., Shotwick, on appointment to a Temporary Commn. from Army for course of instruction. 15.3.24.

Pilot Officers: J. M. Darroch, to No. 2 Sqdn., Andover. 17.3.24. R. H. Bibby, to No. 25 Sqdn., Hawkinge. 17.3.24.

Pilot Officers: R. E. Bain, to No. 1 Flying Training Sch., Netheravon. 1.3.24. R. S. Blucke, to R.A.F. Cadet College, Cranwell. 1.3.24.

Pilot Officers: B. O. Babb, H. E. N. Burton, J. M. Cohu, F. H. S. David, C. Feather, E. A. H. Fisher, R. A. Ford, A. N. Francombe, V. G. H. Gee, M. W. Goldie, V. Bigham-Hall, M. C., C. E. Hillier, L. M. Johnston, W. J. Lewis, H. R. Lowry, H. F. Luxmoore, A. L. Macmillan, A. W. B. McDonald, A. D. McDowell, A. W. G. Martin, H. S. Martin, W. V. R. Nicholl, H. M. G. Parker, D. K. Power, G. B. M. Rhind, C. D. Shearing, E. L. Shepherd, C. S. Staniland, H. W. P. Stewart and N. A. West, all posted to No. 5 Flying Training Sch., Shotwick, on appointment to Short Service Commns. (on probation) for course of instruction. 15.3.24. A. H. Grace to No. 3 Sqdn., Worthy Down. 1.4.24.

Stores Branch

Squadron Leader: F. H. Songhurst, M.B.E., to No. 1 Sch. of Tech. Training (Boys), Halton. 17.3.24.

Squadron Leader H. T. Foxen to H.Q. Iraq Command. 14.3.24.

Flying Officers: R. T. Rich, to R.A.F. Depot, on transfer to Home Estab. 13.2.24. W. C. Farley, to H.M.S. "Hermes." 19.2.24.

Flying Officer C. T. Davis to No. 4 Flying Training Sch., Egypt. 20.1.24.

Store and Accountant Branch

Flight-Lieutenant C. E. Cullen, to No. 1 Group H.Q., Kenley. 10.3.24.

Flying Officers: J. McCarthy, to Stores Depot, Iraq. 27.1.24. L. T. Sanderson, D.S.M., to Aircraft Depot, Iraq. 8.2.24.

Squadron Leaders: J. Rylands (Accountant), to R.A.F. Depot, on transfer to Home Estab. 8.2.24. F. H. Songhurst, M.B.E. (Stores), to R.A.F. Depot, on transfer to Home Estab. 7.2.24.

Flying Officers (Stores): F. A. Ormerod, to No. 1 Sch. of Tech. Training (Boys), Halton. 10.3.24. W. A. Kyte, to Sch. of Naval Co-operation, Le-on-Solent. 1.3.24. H. B. Hawker, to No. 11 Sqdn., Bircham Newton, on transfer to Home Estab. 1.3.24. W. B. Frederick, to Sch. of Tech. Training (Men), Manston. 6.3.24. J. G. Smithson, to H.M.S. Eagle. 26.2.24.

Medical Branch

Flight-Lieutenants: P. C. Livingston, D.P.H., D.O.M. & S., to R.A.F. Central Hospital, Finchley. 17.3.24. T. J. X. Canton, M.B., to R.A.F. Depot on transfer to Home Estab. 17.2.24. T. A. G. Hudson, B.A., to Marine and Armament Experimental Estab., Felixstowe. 14.3.24.

Flight Lieutenants: H. B. Troup to Stores Depot, Iraq. 13.2.24. E. C. K. H. Foreman, to R.A.F. Depot, on transfer to Home Estab. 29.3.24.

Flying Officer: R. W. White, to R.A.F. Hospital, Cranwell. 19.3.24.

Flying Officer (Quartermaster): F. W. Goodread, to R.A.F. Central Hospital, Finchley. 20.3.24.

Squadron Leader A. E. Panter, B.A., to Sch. of Tech. Training (Men), Manston. 6.3.24.

Flight Lieutenants: W. F. Wilson, M.C., M.B., to No. 5 Flying Training Sch., Shotwick. 16.3.24. C. T. O'Neill, O.B.E., M.B., to R.A.F. Central Hospital, Finchley. 14.3.24. J. F. Gallagher, to R.A.F. Depot. 12.3.24. A. E. Henton, to No. 41 Sqdn., Northolt. 25.2.24. J. T. T. Forbes, to No. 4 Flying Training School, Egypt. 14.2.24. C. T. Hastings (Dental), to Palestine General Hospital, on appointment to a Temp. Comm. on attachment from the Army. 1.2.24.

Flying Officer R. H. Stanbridge, to Research Lab. and Medical Officers' Sch. of Instruction, Hampstead, on appointment to a Short Service Commn. for short course. 19.2.24.

Flying Officer (Dental): H. J. Henderson, to R.A.F. Base, Leuchars. 31.3.24.

Flying Officer (Hon. Flight Lieut.) G. R. Hall, M.D., to R.A.F. Depot. 1.4.24.

Dunning Memorial Cup.

The Dunning Memorial Cup, which is given annually to the officer who is considered to have done most to further aviation in connection with Fleet work, has been awarded to Flying Officer Eustace Jack Linton Hope for 1923.

IN PARLIAMENT

Naval Aircraft Carriers

COMMANDER BELLAIRS, on March 14, asked the Parliamentary Secretary to the Admiralty which of the aircraft carriers have accommodation to enable the commander-in-chief and his staff to be accommodated on board?

Mr. Ammon: No British aircraft carrier is at present provided with accommodation for the commander-in-chief and staff.

Naval Air Arm

COMMANDER BELLAIRS asked the Prime Minister whether the arrangements made last year for the control, manning, and training of the Air Forces associated with the Navy is working satisfactorily; and whether naval requirements are being fully complied with?

The Prime Minister: The arrangements have not been put into operation owing to a disagreement as to the interpretation of, and means of giving effect to, the decisions. The Government have taken steps by which the matters in dispute may be adjudicated when the decisions in question must be put into operation.

Lieut.-Commander Burney: Will the right hon. gentleman enquire why the Director of Naval Construction is not represented on the Board of Aeronautical Services?

The Prime Minister: That is a totally different question.

Mr. Lambert: Which is the source of the disagreement? Is it the Admiralty or is it the Air Force?

Air Planes Statistics

COMMANDER BELLAIRS, on March 19, asked the Parliamentary Secretary to the Admiralty whether he can state the total number of air planes attached to the British, Japanese and American Navies, respectively; and what future strength is provided for?

Mr. Ammon: At the present time there are 84 machines allocated to the British Navy, exclusive of reserve machines. Provision has been made to increase this number to 112 during the financial year 1924-25. The Japanese Navy is understood to possess 50 service machines, exclusive of reserve and training machines, and, according to Press reports, this number is to be increased to 130 service machines by March 31, 1929. The United States Navy is understood to possess 260 service machines, exclusive of reserve and training machines, and, according to latest information, this number is to be increased to approximately 400 by the middle of 1925. I should add that Japanese and United States figures include certain aircraft available for coast patrol, which can, however, be used with the fleet at the will of the respective Admiralties.

Viscount Curzon: In view of these figures, does the hon. gentleman consider that we are at a one-power standard in the air, as far as the Navy is concerned?

Imperial Airship Scheme

MR. WELLS asked the Prime Minister, in view of the vital importance to Australia and the disappointment caused by the postponement of the Imperial airship scheme, when he will make known the Government's decision on this matter?

Major Sir Archibald Sinclair (by Private Notice) asked the Prime Minister whether he is aware that an announcement has been made in the Press to the effect that the Government have definitely decided not to proceed with the Burney airship scheme, and that an official announcement to such effect will be made in the next few days; and will he state if there are any grounds for such a report; whether he is also aware that the Under-Secretary of State for Air on March 11, definitely stated, in this House, that the originator of this scheme would be given an opportunity of laying his views before the Committee, and that this opportunity has not yet been afforded?

The Prime Minister: I propose to answer these two questions together. There is no foundation for the statements that have appeared in the Press that the Government have definitely decided not to proceed with the Burney airship scheme. That scheme is at present being thoroughly examined, and, as stated by my hon. friend the Under-Secretary of State for Air on the 11th instant, an opportunity will be given to its originator to lay his views before the Committee before a final decision is taken by the Government.

Viscount Curzon: Will there be an opportunity for this House to discuss the decision of the Government when it has been arrived at?

The Prime Minister: Yes, there will be several opportunities in connection with Supply, even if there are no other opportunities.

Commander Bellairs: Is the right hon. gentleman aware that part of the disappointment is caused by the loss of employment through the delay, and will he expedite this decision?

The Prime Minister: I can assure the House that the examination is being expedited, but this Government refuses to make itself responsible for a scheme of such enormous magnitude as this without a thoroughly sound examination.

R.A.E. Cadets' Fees

LIEUT.-COMMANDER KENWORTHY, on March 20, asked the Under-Secretary of State for Air what fees, if any, are charged for cadets under instruction for the Royal Air Force?

Mr. Leach: Particulars of the fees are given in Appendix I of the Regulations for Cranwell, of which I am sending my hon. and gallant friend a copy.

Lieut.-Commander Kenworthy: Can the hon. gentleman say whether those fees are charged to cadets? I want to know now.

Mr. Leach: Certainly they are charged.

Lieut.-Commander Kenworthy: Is the policy of the Government to abolish those fees which may keep deserving lads who are poor out of the Air Service?

Mr. Leach: If we had sufficient encouragement from the House we might do something on the lines which the hon. and gallant member has suggested.

Lieut.-Commander Kenworthy: Is the hon. gentleman aware that he has a clear majority in the House for that policy?

Mr. Speaker: I do not know if the hon. and gallant member controls a majority.

R.A.F. Aerodromes

SIR E. HUME-WILLIAMS asked the Under-Secretary of State for Air if it will be necessary to construct new aerodromes to accommodate the contemplated increase in the Air Force; if so, whether such aerodromes will be inland or on the coast; and if any of the inland aerodromes built during the War have escaped subsequent destruction and can be utilised?

Mr. Leach: The answer to the first part of the question is in the affirmative; to the second, that the majority of the aerodromes will be inland, but a few will be required near the coast. As regards the last part of the question, some of the War-time aerodromes are in existence, and will be re-opened in preference to acquiring new sites wherever this course is the more economical and meets defence requirements.

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The British Industries Fair

THIS year's British Industries Fair—the object of which is to extend the British export trade—will be held at the White City, Shepherd's Bush, from April 28 to May 9, and at Birmingham from May 12 to 23.

Aviation in Brazil

ACCORDING to the Argentine Press, the Brazilian Army has drawn up a scheme for an air line linking up the base and flying school at Affonsos (near Rio de Janeiro) with the base at Santa Maria (Rio Grande del Sud, on the Argentine frontier). The new air line will be established on the principle of short stages, so that the Military Air Service may serve to develop the regions which the line crosses. This has been borne in mind in advising the laying-out of a small landing ground every 20 km., and of a big base with workshops, spare parts and extra personnel for emergencies every 300 km. According to information received, the general plan of the work required is already drawn up, and some idea of the scale of the work contemplated is given by the fact that 100,000 gold dollars will be spent on the ground organisation alone for the San Paulo Base, which will be the first to be laid out, and, when finished, one of the best in the world. A special flying personnel will be organised. The majority of the Air Service officers at the moment are cavalry officers, because this arm is not considered of much importance in modern warfare, and, therefore, the personnel can be spared for Air Service duties. One of the aims being to promote the development of the regions which the military aircraft will cross, the Army staff proposes to use the machines for civil purposes, such as the transport of passengers and mails, police duties, etc. Military aviation will thus become an instrument of civilisation and progress, a means of profit in fertile regions, and a means of defence. The installation of landing grounds should promote the construction of roads, and hence the formation of new villages and centres of activity.

Air Mail Service Between Finland and Sweden.

NEGOTIATIONS have been entered into on the part of Finland and Sweden for the establishment of a regular air mail service between Helsingfors and Stockholm.

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COMPANY MATTERS

Rolls-Royce, Ltd., to Pay 8 Per Cent.

THE Directors of Rolls-Royce, Limited, will next week issue their annual report. It will show that the profits for the year ended the 31st October last amounted to £156,708.

They have decided to recommend at the annual meeting of shareholders, which is to be held at Derby on the 14th April, that a dividend of 8 per cent. should be paid in respect of the year named.

NEW COMPANY REGISTERED

CENTRAL AIRCRAFT CO., LTD., 179, High Road, Kilburn, N.W. 6.—Capital £26,000, in 2,900 8 per cent. cumulative preference and 23,000 ordinary shares of £1 and 2,000 founders' shares of 1s. Acquiring the business of a sawmiller, cabinet maker, aircraft builder, etc. First directors A. J. Cattle, C. H. Cattle, B. M. Gillett, O. E. Twigg, P. Bolton, W. Hancock.

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AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1922

Published March 27, 1924

- 32,594. H. LEITNER. Mechanism for varying pitch of screw propellers. (211,951.)
34,569. ARMSTRONG SIDDELEY MOTORS, LTD., and H. N. WYLIE. Wings, etc. (212,006.)

APPLIED FOR IN 1923

Published March 27, 1924

74. A. J. STONE. Metal screw propellers. (212,018.)
1,577. H. W. HOLLAND and W. MANSFIELD. Release mechanism for dropping bombs. (212,036.)
19,544. HOPE MANUFACTURING CO., LTD., and H. BROWN. Headwear. (212,187.)

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